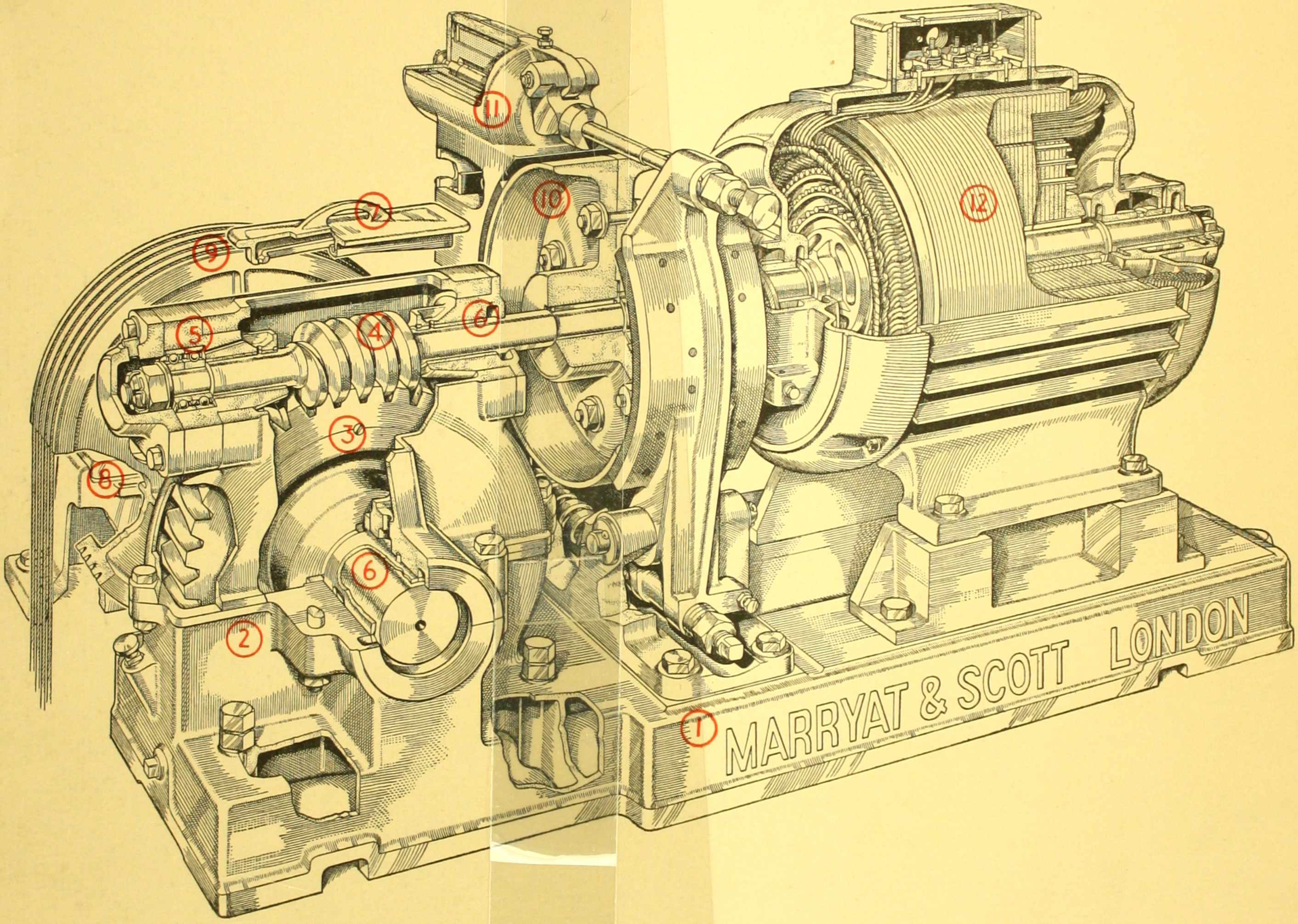
WHAT HAPPENS WHEN YOU PRESS THE LIFT PUSH

SECTIONAL DRAWING OF AN S/15 LIFT MACHINE



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AND SOME OF ITS PRINCIPAL FEATURES

1 BEDPLATE—*Exceptionally rigid box section to prevent vibration*

2 WORM GEAR CASE—*Cast integral with the Bedplate and of Oil-tight and Glandless construction having ample Sump for oil which is automatically circulated to all Bearings. Dip-stick and Drain Plug are incorporated*

3 WORMWHEEL—*Situated below the Worm to ensure low centre of gravity. The Rim is shrunk and pegged to a cast iron centre and is of centrifugally cast bronze ensuring the best possible wearing surface, absolute homogeneity, thereby precluding the possibility of hidden flaws*

4 WORM—*Of nickel case-hardened steel. Threads are carefully ground to the correct profile thus giving the required silkiness in operation*

5 THRUST BEARING—*Duplex Ball Bearing type amply rated and provided with direct oil feed*

6 SHAFT BEARINGS—*Sleeve type of high grade Gun-Metal rigidly fixed*

7 INSPECTION COVER—*Easily removable and of ingenious design embodying channels for oil feed to top Bearings*

8 OUTER BEARING—*Gun-Metal Bushed with spring-feed grease lubrication and supported on heavy section Pedestal ensuring easy site alignment*

9 DRIVING SHEAVE—*Disc type with ample stiffening Webs of best quality cast iron. Grooves accurately machined and gauged ensuring long rope life*

10 COUPLING—*Fully machined and balanced. Accurately fitted and keyed to Worm and Motor Shafts*

11 ELECTROMECHANICAL BRAKE—*Easily adjustable silent type with large area Linings on adjustable Shoes and incorporating Hand Release Mechanism self re-setting. All electric parts totally enclosed with Flexible Steel Conduit for incoming cables*

12 MOTOR—*High-Torque low starting current Induction type without Brush Gear, specially designed for arduous Lift Duty. Super-silent running with Sleeve Bearings and almost indestructible Rotor. Terminal Box easily accessible. Square Shaft with protecting shroud provided for Hand Winding*

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A DESCRIPTIVE BOOKLET

FROM THE LIFT MANUFACTURERS

MARRYAT & SCOTT LTD

ESTABLISHED 1891

ON KING'S ROLL, MEMBER OF FEDERATION OF BRITISH INDUSTRIES, CONTRACTORS TO ADMIRALTY, WAR OFFICE, MINISTRY OF WORKS, NATIONAL COAL BOARD, MINISTRY OF SUPPLY, AIR MINISTRY, MINISTRY OF CIVIL AVIATION, MINISTRY OF HEALTH, MINISTRY OF FOOD, MINISTRY OF TRANSPORT, BRITISH RAILWAYS, BRITISH ELECTRICITY AUTHORITY, BRITISH GAS BOARD, LONDON COUNTY COUNCIL, CROWN AGENTS FOR THE COLONIES, AND GOVERNMENTS OF U.S.A., CANADA, INDIA, NETHERLANDS WEST INDIES, ICELAND, EGYPT, EIRE, MOZAMBIQUE, NEW ZEALAND, ETC.

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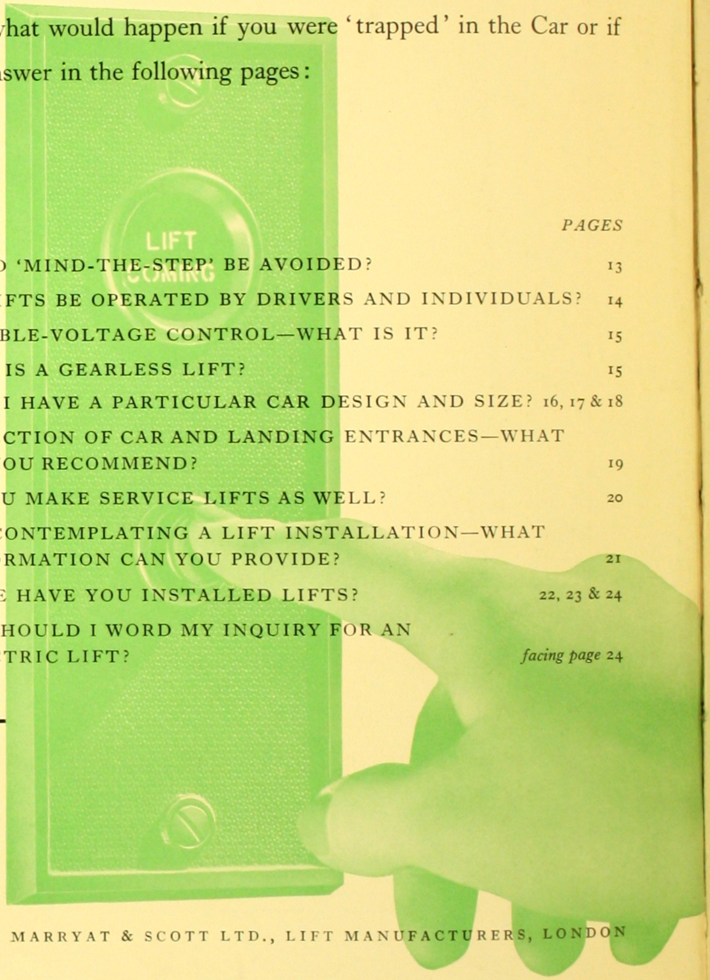
FOREWORD

IN COMMON with other persons when using an Automatic Lift you may have wondered what happens after you have pressed the push to call the Car to your floor. You may have had, also, disturbing thoughts of what would happen if you were 'trapped' in the Car or if the Ropes were to break. These and other questions we have endeavoured to answer in the following pages:



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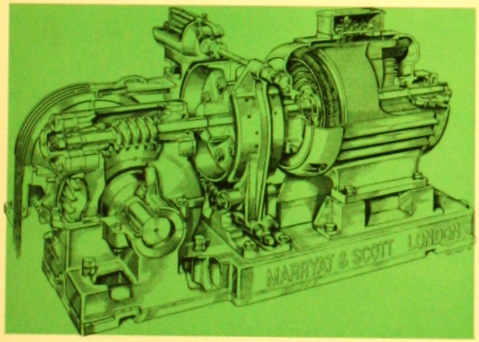
HOW SHOULD I WORD MY INQUIRY FOR AN ELECTRIC LIFT? *facing page 24*

We sincerely hope that you will find this publication interesting. If your own particular question has not been answered—tell us what it is and we will be pleased to provide the answer

OF WHAT DOES A LIFT CONSIST?

A PASSENGER-carrying Lift consists normally of the CAR (in which you travel) on one end of a set of extremely strong steel wire Ropes with a COUNTERWEIGHT at the other end. To give the up and down motion you require, there is introduced a reversible electric MOTOR, coupled to a high speed or worm shaft of a REDUCTION GEAR with a BRAKE interposed. The slow speed or worm-wheel shaft of the gear is extended and to it is fitted a DRIVING SHEAVE having grooves of 'V' formation in which lie the lifting ropes.

The weight of the car and the counterweight causes the ropes to be gripped in the grooves of the sheave so that when the motor turns the gear, which then rotates the sheave, the car and counterweight are raised and lowered according to direction of travel required.

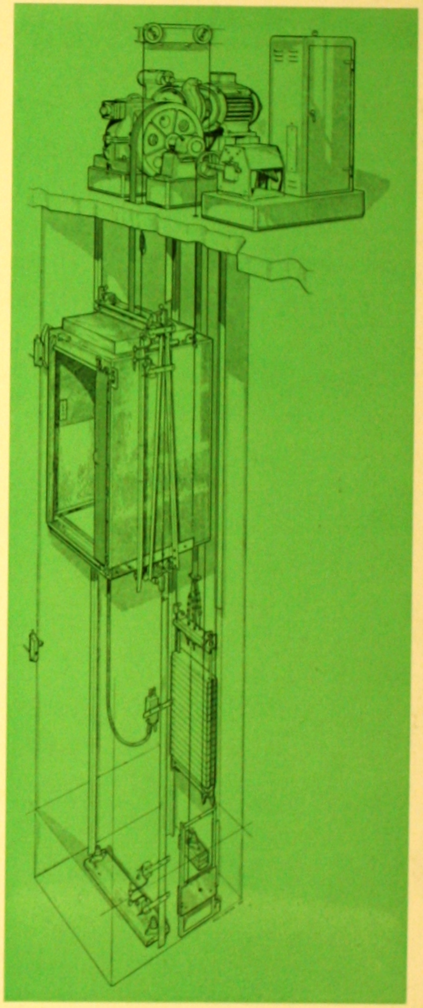


Car and counterweight are kept in position throughout their travel by GUIDES of specially designed 'Tee' steel section securely attached to the sides of the Lift-well.

The 'brain' of the Lift is the CONTROLLER which dominates all the operations of the motor and brake in conjunction with the PUSHES and FLOOR-FINDING SWITCHES and so determines the stopping of the car at the right floor.

LOCKS and CONTACTS fitted to CAR and LANDING GATES or DOORS, ensure that the Lift will not start until they are safely closed.

The electricity supply is taken to the travelling car by a heavily insulated extremely FLEXIBLE CABLE which is securely attached to CONNECTING BOXES one of which is fixed to the car itself and the other approximately half way up the Lift-well.



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WHAT HAPPENS WHEN YOU PRESS THE LIFT-PUSH?

Let us operate an S/2 type Marryat-Scott Automatic Passenger Lift.

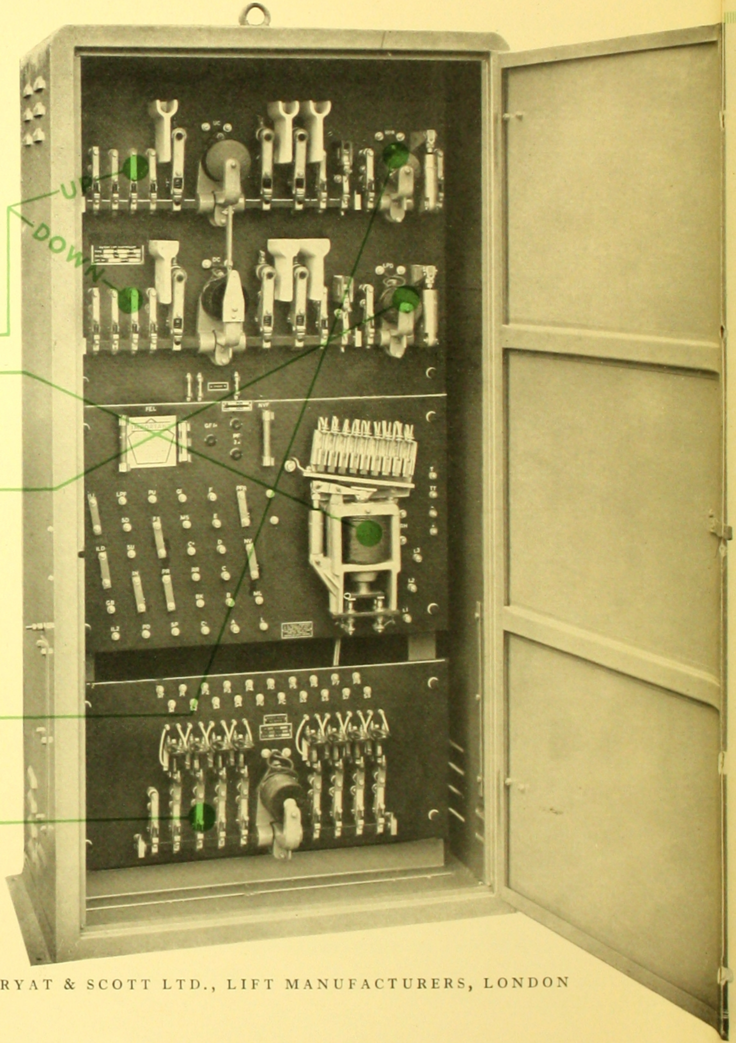
Momentary pressure of a landing PUSH sends a small electrical current to a **RELAY** of the CONTROLLER corresponding to the floor on which you are standing.

There is a relay for every floor and each relay has two contacts—one for up and one for down motion of the CAR. These contacts are so connected to the FLOOR-FINDING SWITCHES (which are operated by the car) that only the contact which will start the car travelling in the right direction is energized.

Before the MOTOR revolves the relay contact has in turn to operate the **DIRECTIONAL CONTACTOR** of the controller which in conjunction with a **RHEOSTAT** controlling a RESISTANCE causes the motor gradually to accelerate up to full speed. The BRAKE is simultaneously released so that the car then commences to travel to your floor.

Also energized when your call is registered is a **LANDING DELAY RELAY.** This has a dashpot operation which causes the push circuit to be broken very slowly, thus when the car arrives at your floor instead of being called away immediately by some one who may have kept his finger on his landing push you have reasonable time in which to open the LANDING and CAR GATES, enter the car, close the GATES and press the CAR-PUSH corresponding to the floor you require. After pressing this push a sequence of operations occurs similar to those which happened when you pressed the landing push except that a **PAUSE RELAY** comes into effect instead of the landing delay relay so that when you arrive at your destination you are again given reasonable time to open and close the gates and leave the car without interference.

When the car arrives at either the calling or destination floor it operates the floor-finding switches, which disconnects all current to the motor via the controller, applies the brake, and brings the car to rest.



A typical MARRYAT-SCOTT *Controller*

WHAT HAPPENS WHEN YOU PRESS THE LIFT-PUSH?

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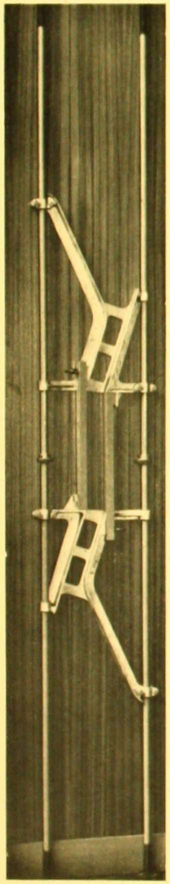

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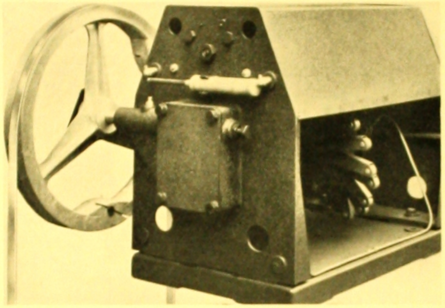
1 *Ramp for operating Direction Switches in the Lift-well (See illustration No. 3)*

2 *Floor-Finding Selector Switch (Machine Room type)*

3 *Floor-Finding Direction Switch (Lift-well type)*

4 *Tension Weight for Floor Selector (See illustration No. 2)*

5 *Connecting or Half-way Box between Conduit and Flexible Cable*



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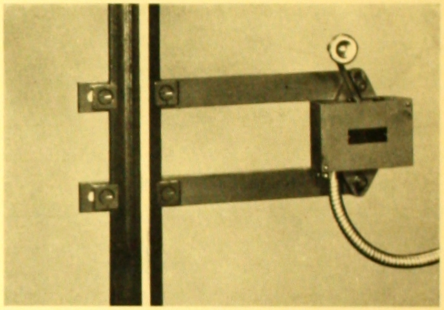

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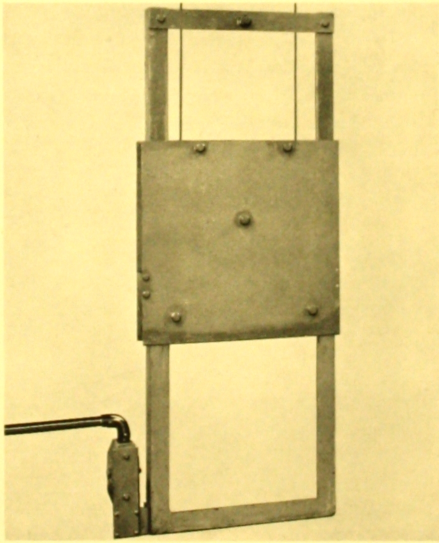

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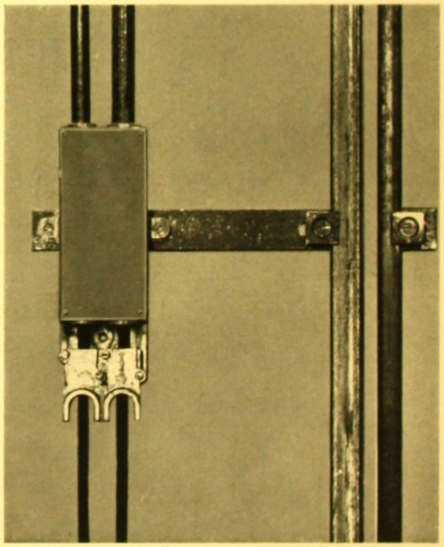

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DO LIFT-ROPES BREAK—

IF A LIFT is regularly maintained by competent Engineers they will arrange that worn ROPES are replaced so that in such circumstances ropes never break.

Nevertheless it is a contingency for which we always allow.

Passenger-carrying CARS are contained in a very substantially constructed steel frame (Fig. 7). The ropes are attached to EQUALIZING MECHANISM at the top of this sling.

On the underside of the car is fitted a SAFETY-GEAR comprising two STEEL RODS carried across the car and at each end of these rods is fitted a SERRATED METAL CAM.

The two rods are interconnected. On slow and medium speed lifts, the cams are connected to a SAFETY-ROPE, which is taken up to the top of the Lift-well over separate PULLEYS (Fig. 6) down to a secured anchorage on the COUNTERWEIGHT.

In the unlikely happening of the main ropes breaking the safety-rope immediately pulls in the cams, which grip the sides of the GUIDES instantaneously and securely sustain the car.

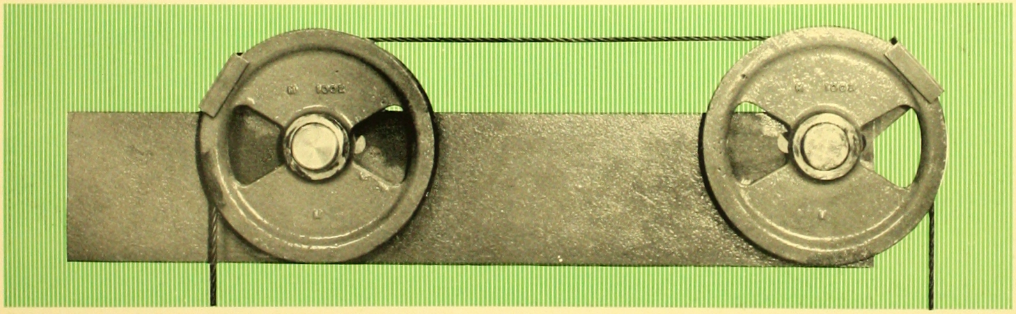
On high-speed lifts the safety-gear is of the WEDGE-CLAMP TYPE (Fig. 8) which is also fixed to the underside of the car and is operated from a rope controlled by an OVERSPEED GOVERNOR (Fig. 9).

The rope is wound round the governor pulley down to a TENSION WEIGHT (Fig. 11) fixed in the pit with a connecting rope led to the safety gear through a TORPEDO (Fig. 12) interlocking engagement on the car.

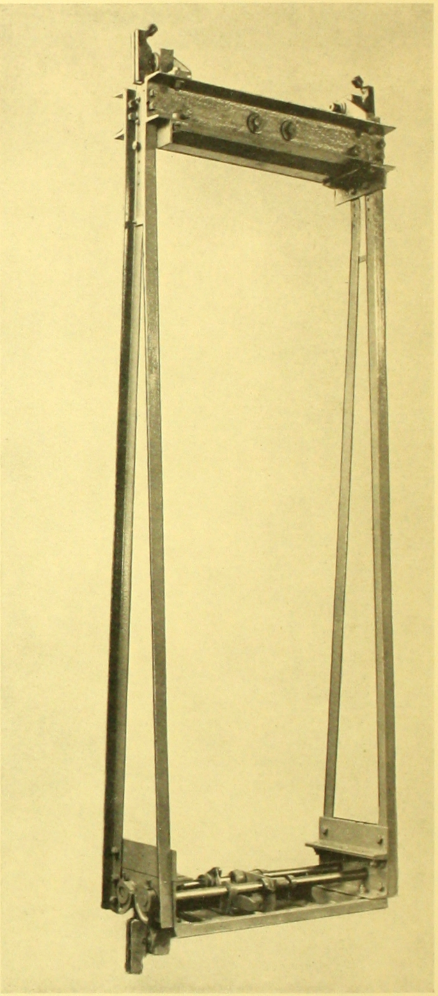
In the event of a Lift overspeeding due to any mechanical or electrical cause or to the ropes breaking, the governor comes into action, pulls the operating rope which breaks its engagement from the torpedo on the car, rotates the drum of the safety-gear causing the wedges gradually and securely to grip the guides.

Overspeed governors can be applied to most lifts if so desired. The application is the same as that described for the scissor-type safety gear except that with the serrated cams the application is instantaneous (Fig. 10).

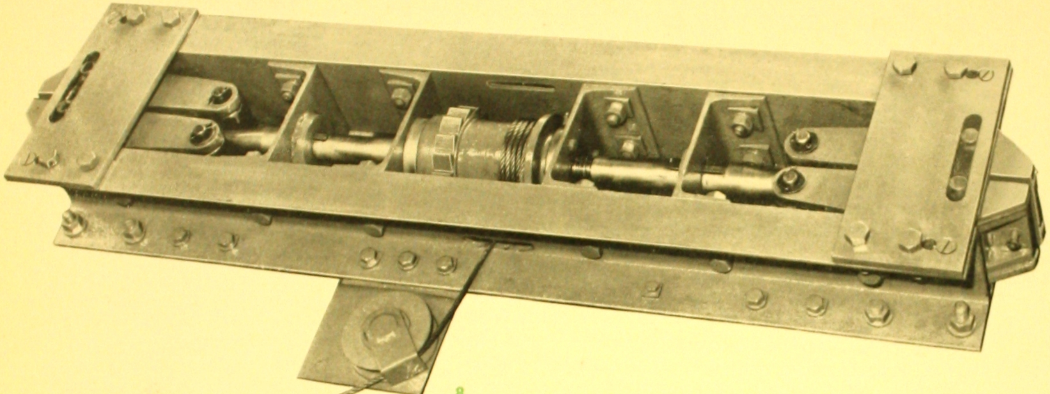
To prevent damage to electrical equipment all safety-gears have an ELECTRICAL INTERLOCK so that as soon as they operate the supply is disconnected from the CONTROLLER which in turn disconnects the supply to the MOTOR, operates the BRAKE and brings the WINDING MECHANISM to rest.



6 *Safety-Rope Pulleys*



7 *Car-frame and Safety-gear*



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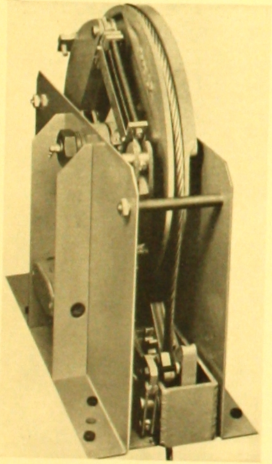
—OR LIFT-CARS RUN AWAY?



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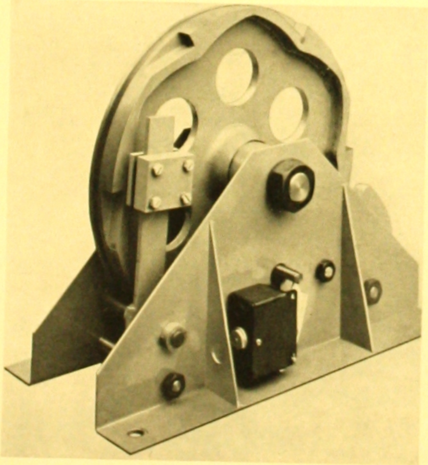

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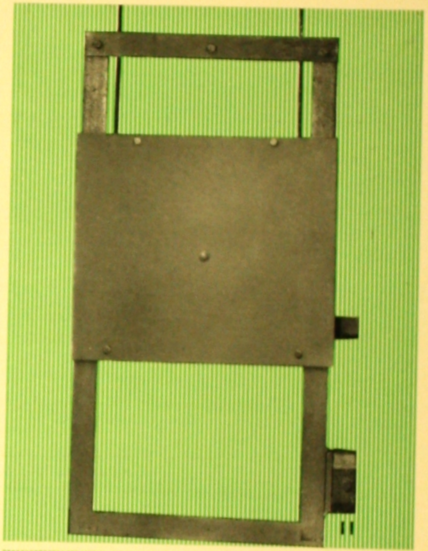
8 *Wedge-clamp Safety-gear*

9 *Overspeed Governor for Wedge-clamp Safety-gears*

10 *Overspeed Governor for Instantaneous Safety-gears*

11 *Tension Weight for Overspeed Governor Operating Rope*

12 *The Torpedo Clutch*



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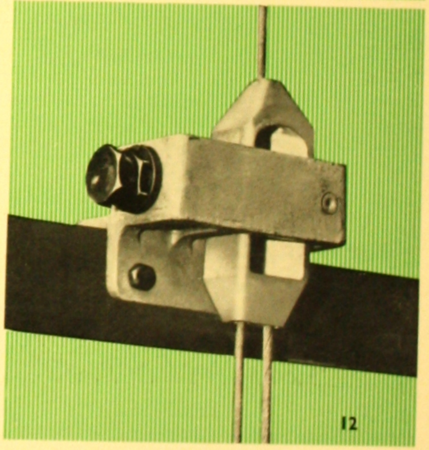

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HOW ARE 'TRAPPED' PASSENGERS RELEASED?

THE WORD 'TRAPPED' has been employed because of its general use by the Press. Considering the thousands of Lifts that operate daily, the stopping of a CAR between floors happens most infrequently and is very often caused by electricity failure. Nevertheless, nobody wants to be in such a predicament for long and we provide easily operated means to ensure the quick release of the car occupants.

As it is not usually possible for passengers to release themselves an ALARM BELL SYSTEM should be incorporated so that a bell in a predetermined position can be rung from the car so drawing the passengers' predicament to the attention of a responsible person. The engineer or porter so appointed can (in the LIFT MOTOR ROOM), by means of special tools we provide, easily release the BRAKE and hand-wind (Fig. 13) the car to the nearest convenient landing.

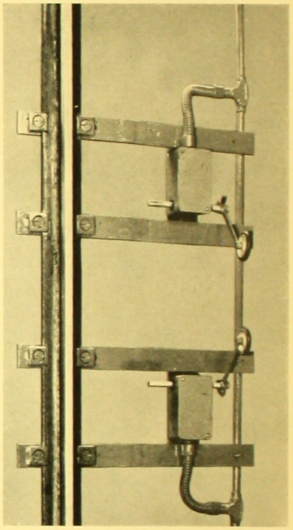
13 *Hand-winding a Lift-machine*

SUPPOSING THE LIFT-CAR OVER-RUNS?

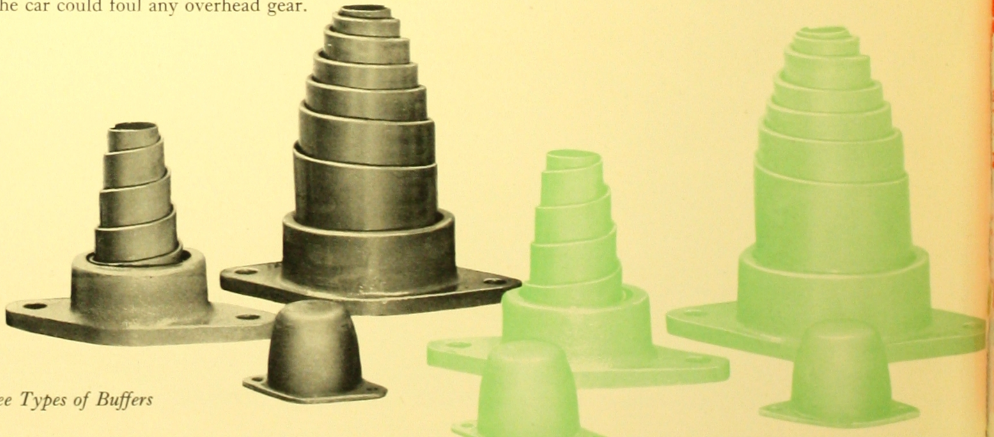
PROVIDING THE TERMINAL LIMIT SWITCHES (Fig. 15) and the BRAKE are functioning correctly, the CAR should stop at each floor (particularly those at top and bottom) within the normal limits of accuracy.

Should the car over-run it is due to the floor-finding switches being out of adjustment, the BRAKE causing the lift to 'slide', or the car being overloaded, causing it to run-on in the down direction. These possibilities are naturally guarded against. If a Passenger-carrying car runs past the terminal limit switch at either extreme of travel a FINAL LIMIT SWITCH (Fig. 15) is operated by a RAMP on the car, entirely disconnecting the electricity supply to the CONTROLLER which in turn automatically stops the MOTOR, applies the brake, and brings the lift to rest. When this happens the lift cannot again be operated until the maintenance engineer has brought the car back to normal floor level; at the same time attending to the fault which has caused the car to over-run.

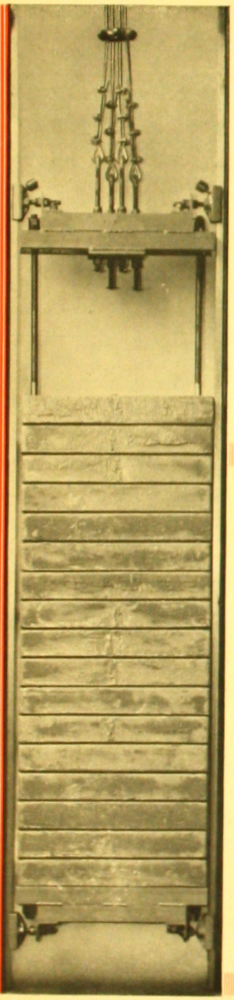
Sufficient space is arranged in the pit and at the top floor to enable the final limit switches to operate correctly. Nevertheless, in the unlikely event of the car running past the final limit switch in the down direction, BUFFERS (Fig. 14) are provided to absorb the car impact or should this happen in the opposite direction the COUNTERWEIGHT would hit buffers before the car could foul any overhead gear.



15 *Terminal and Final Limit Switches*



14 *Three Types of Buffers*



HOW MUCH ELECTRICITY DOES A LIFT CONSUME?

SURPRISINGLY LITTLE! Standard Lift construction has a distinct advantage over other methods of transport because the Car or carriage and half the load it carries are counterbalanced (Fig. 16). This means that the driving MOTOR has to be of sufficient power only to raise half the load to be carried.

A Passenger Lift suitable for a load of 6 persons, will make approximately 50 average trips to 1 unit of electricity. If a unit costs a penny and the normal Automatic Passenger Lift makes about 150 trips per day, this equals 3d. per day—1s. 9d. per week—22s. 9d. per quarter—£4 11s. 0d. per annum.

ELECTRICITY SUPPLY FAILURE—

HOW IS THIS DEALT WITH? *If the electricity supply is cut off our* CONTROL EQUIPMENT *is designed automatically to bring the Lift gradually and safely to rest.*

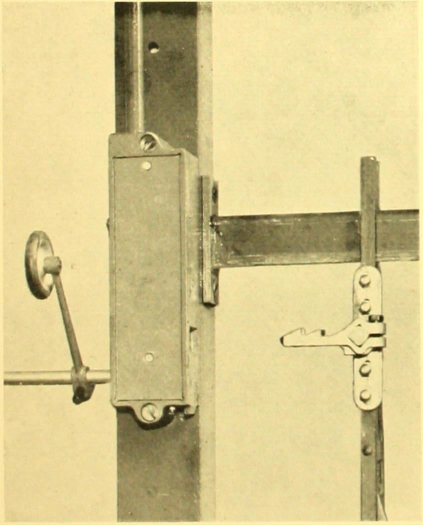
On Alternating Current supplies one phase can fail or phases become reversed, but in most countries this rarely happens. Passenger-carrying Lifts are constructed so that in either event no damage is sustained by the equipment or car occupants. On phase reversal the worst that could happen would be that the CAR would run in the wrong direction, but would be disconnected from the electricity supply by the FINAL LIMIT SWITCHES. We manufacture, however, a suitable RELAY which will automatically disconnect a Lift should this occur or only one phase fail.

16 *Counterweight Assembly*

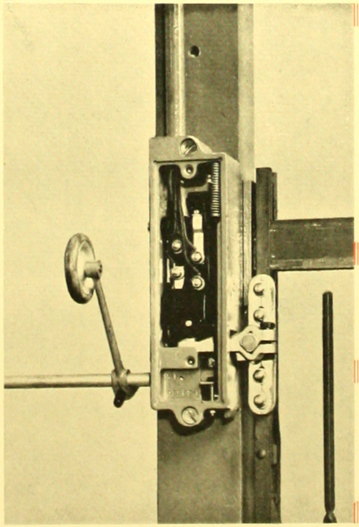
‘SNATCHING’ OPEN OF LANDING DOORS—HOW CAN THIS BE PREVENTED?

ALL OUR ELECTRO-MECHANICAL LOCKS (Fig. 17) are fitted with a LEVER ARM operated by a RAMP on the CAR. When therefore this ramp engages with a lock lever arm the LANDING GATE or DOOR on that floor can be opened. By making the ramp (Figs. 18 and 19) retire whilst the Lift is in motion, ‘snatching’ open of landing doors or gates whilst the car is passing a floor is prevented. The Lift cannot be interfered with or ‘stolen’ from its rightful caller. The inclusion of PRE-LOCKING ensures that the ramp must be withdrawn, the lock lever arm be in the closed position, and the lock circuit safely made before the car can be moved.

A

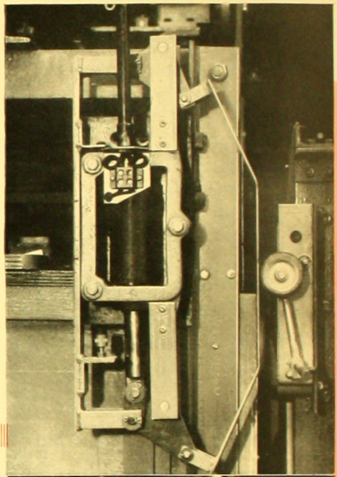


B

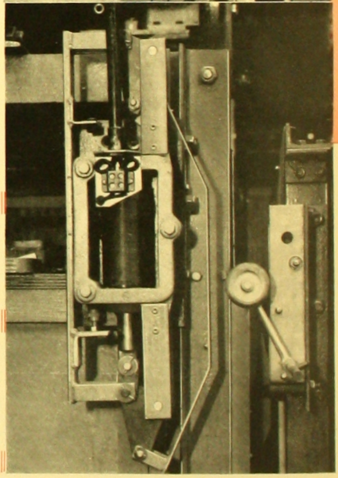


17A (BOTTOM LEFT) *Electro-mechanical Lock, with gate open*

17B (BOTTOM LEFT) *The same Electro-mechanical Lock, with gate closed and cover removed to show interior*



18 (TOP RIGHT) *Retiring Ramp shown forward and Lock released*



19 (BOTTOM RIGHT) *Retiring Ramp shown withdrawn and Lock secured*

WHY DO SOME LIFTS OPERATE MORE QUIETLY THAN OTHERS?

A NOISY LIFT is objectionable. Whilst complete silence has not been achieved so far with any moving machinery, we are continually making experiments and research with this object in view.

SWITCHGEAR which is connected direct to an alternating current supply is usually noisy in operation but by rectifying the control circuit from alternating current to direct current extremely quiet working is provided.

By using a BRAKE of large diameter requiring small spring pressure the consequent impact on application is reduced to the minimum preventing jolty and noisy stopping.

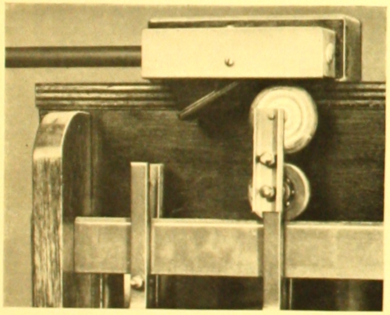
One of the chief noises attributable to electric MOTORS is caused by BEARINGS of the ball or roller type. Employment of sleeve bearings and scientific construction of the WINDINGS, reducing the air gap to the minimum, ensures a much quieter running motor.

The employment of scientifically constructed MACHINED TEE-SECTION GUIDES with spigoted and fishplated joints provides a very smooth and silent guiding medium for the CAR and COUNTERWEIGHT.

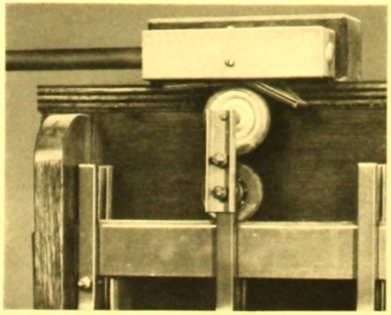
DOOR and GATE LOCKS and CONTACTS (Figs. 17A, 17B, 20 and 21) work much more quietly when noisy latches are omitted, and operating LEVER ARMS are fitted with rubber tyres. A great deal of noise is also saved if the operating RAMP (Figs. 18 and 19) for the landing locks is withdrawn whilst the car is travelling.

COLLAPSIBLE STEEL GATES (Fig. 22) can be extremely noisy unless some method is employed to prevent metal to metal clash. RUBBER INSERTS between the vertical pickets and the employment of MACHINED STEEL TOP TRACKS make a considerable improvement.

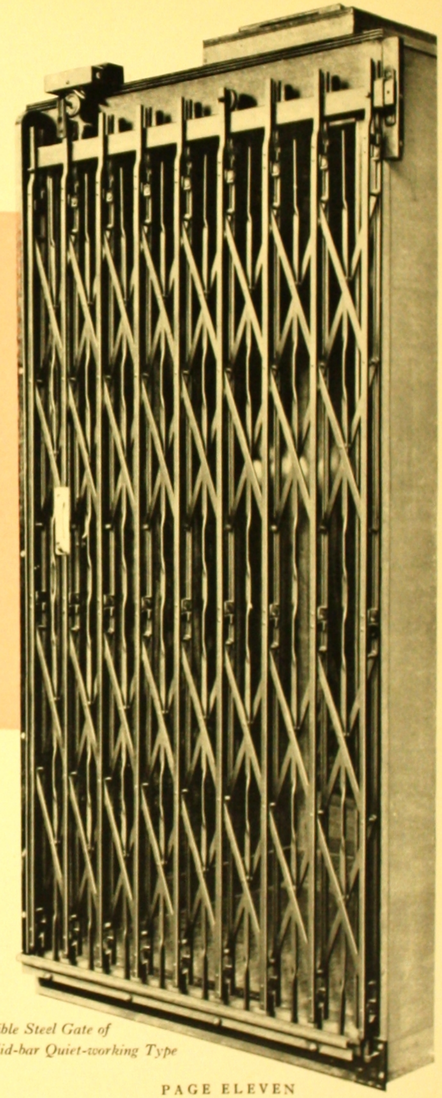
Even if all the silencing features we mention are incorporated it is still wise to INSULATE the MACHINERY in the MOTOR ROOM from the main fabric of the building. In addition, the acoustic treatment of the motor room and LIFT-WELL should have the special attention of the Architect and Builder. Our experience is freely available for this purpose.



20 (LEFT) *Car Gate Contact shown in Open Position (note Rubber Tyred Operating Striker)*



21 (RIGHT) *Car Gate Contact shown in Closed Position*



22 *Collapsible Steel Gate of the Full Mid-bar Quiet-working Type*

SHOULD NOT LIFT-DOORS BE OPENED AND CLOSED AUTOMATICALLY?

YES, THEY SHOULD! This question is usually asked by a Passenger who has used a Lift having LANDING DOORS OR GATES which have to be manually opened, but are closed by weights, springs, or some similar method.

This is a development from the time when LIFT-CARS were permitted to have hinged or floating floors. When Passengers stepped into the car their weight caused the car floor to 'sink' and at the same time operate a contact under the floor. This contact had a dual purpose. It ensured that the CAR GATE had to be closed when Passengers were in the car, but that an empty car could be called to a landing with the gate open.

If, therefore, the landing doors or gates were made self-closing, continuity of Lift service was maintained.

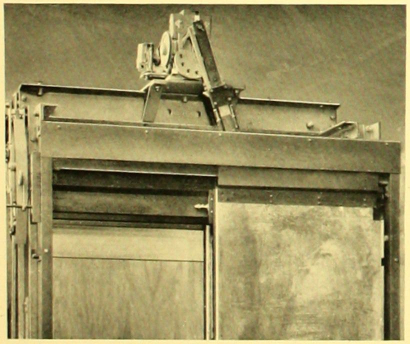
Legislation in several countries now forbids the use of such an arrangement and insists on the car gate being closed before the car is moved, whether occupied or not.

As it is not easy for Passengers to operate car and landing gates or doors, both having springs or weights to close them, AUTOMATIC POWER OPERATION has been evolved.

We have made such considerable research into this problem that power operation can be incorporated at little, if any, extra cost, and 'AUTOMATIC' Lifts in the fullest sense supplied for both Passengers and Goods.

Apart from the convenience afforded time is saved thereby increasing Lift service.

23



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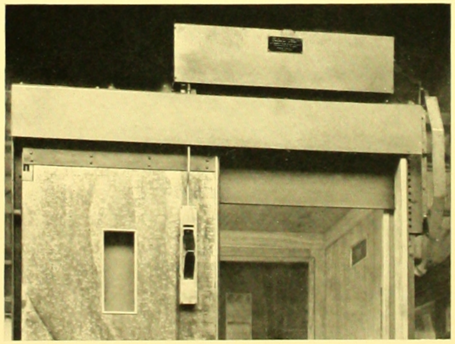


25

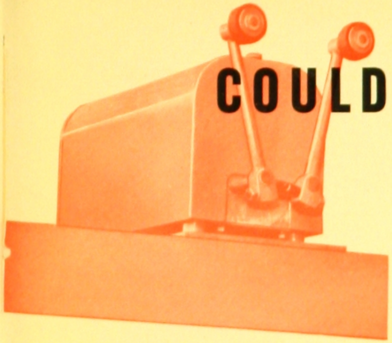
NO 4 LIFT SWL 3 TONS (OWL 29)
POWER OPERATED DOORS STAND CLEAR

23 *Automatic Door-operator—High-speed Type*

24 *Automatic Door-operator—Medium-speed Type*

25 *Electric Goods Lift with Servo-operated Bi-parting Landing Doors*

COULD MIND-THE-STEP BE AVOIDED?



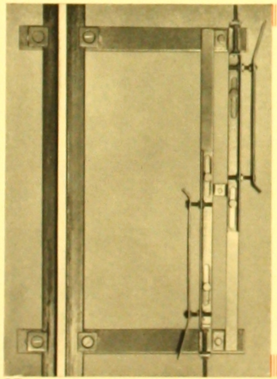
26

YES! Single-speed Automatic Push-Button Lifts usually travel at a speed not exceeding 130 feet per minute and at this speed the CAR will stop level with the floors at half load, but approximately one inch high or low with full load or an empty car. Lifts driven by an Attendant can be levelled usually only after one or two attempts, causing undue wear and tear.

To secure accurate automatic floor registration on either control and regardless of load it is necessary to reduce the final speed of the car when approaching the required floor. This is usually obtained by employing a VARIABLE-SPEED MOTOR. The normal floor SELECTING SWITCHES disconnect the high speed when the car approaches the desired floor and at the same time bring into action a LEVELLING SWITCH (Fig. 26) fixed on the car. This levelling switch shoots forward and engages with a RAMP (Fig. 27) in the lift-well, causing the car to 'creep' to accurate floor registration.

When you require this feature specify our LEVELTRIC VERNIER DRIVE.

A useful and more economical alternative for goods Lifts required to carry loaded TRUCKS up to 20-cwt. capacity is our THRESHOLD LEVELLER (Fig. 28). This Leveller not only overcomes both horizontal and vertical discrepancies in floor levels but acts as a 'bridge' over any gaps between the landing and car floor.



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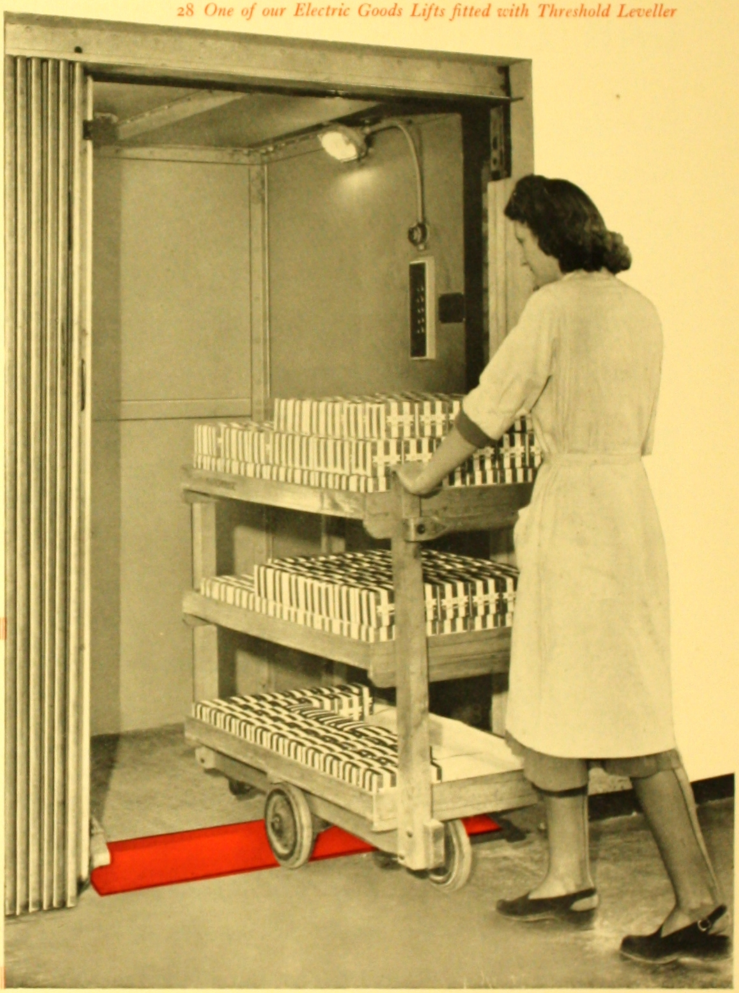
26 (AT TOP OF PAGE) *Levelling Switch*

27 *Ramp for Operating Levelling Switch*

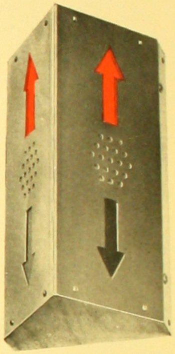
28 *One of our Electric Goods Lifts fitted with Threshold Leveller*



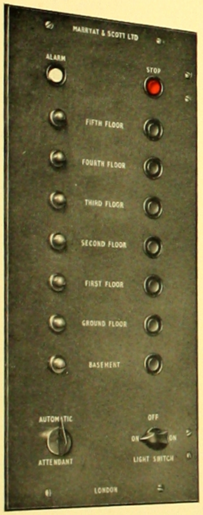
CAN LIFTS BE OPERATED BY DRIVERS AND INDIVIDUALS?

YES, QUITE EASILY! There is a great demand for what are termed 'DUAL' controlled machines. In office buildings and hotels there are usually busy periods during which it is preferable for Lifts to be under the control of Attendants or Drivers who can handle much more traffic than individual automatic control.

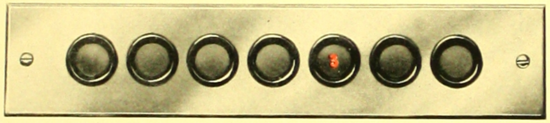
Landing Pushes have a dual operation, either telling the Attendant via the CALL INDICATOR (Fig. 29) that the Car is required at that floor or in the absence of the Attendant automatically calling the Car. When the Attendant leaves the Car all he has to do is to operate a switch.



31. *Hall Lantern with Illuminated Direction Indicators and Gong, for use on Banks of Collective Control Lifts*



29. *Combined Push-button and Call-indicator Panel for Dual Control*

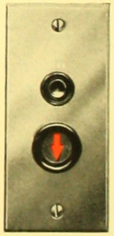


30 *Illuminated Car Position Indicator horizontal type*

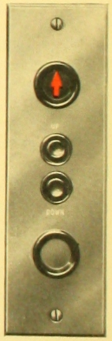
Lift service is greatly improved when a COLLECTIVE CONTROL SYSTEM is incorporated. Intending Passengers and the Attendant register calls in advance which the Lift automatically deals with in correct sequence.

Banks of Lifts are interconnected so that a LANDING CALL (Figs. 32 and 33) brings the nearest Car. HALL LANTERNS (Fig. 31) indicate which Lift this will be.

POSITION INDICATORS (Fig. 30) are used to tell Passengers and the Lift Attendant at which floor the Car has stopped.



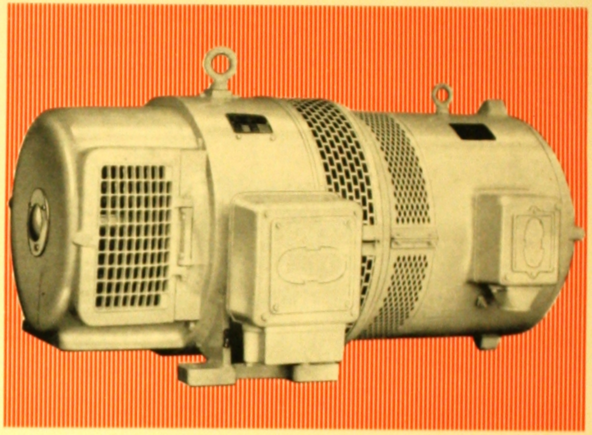
32. *Landing Call Push with Indicator for Collective Control used at Terminal Floors*



33. *Landing Call Push with Indicators for Collective Control used at Intermediate Floors*

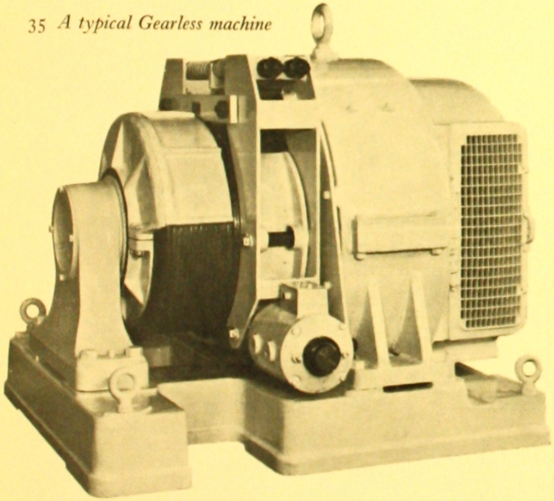
VARIABLE-VOLTAGE CONTROL— WHAT IS IT?

VARIABLE-VOLTAGE CONTROL is the most successful method of operating high-speed Passenger Lifts and heavy duty Goods Lifts. It ensures quick, smooth starting and stopping of the CAR with extremely accurate floor registration. A DIRECT CURRENT MOTOR is used to drive the Lift and its speed is varied by a MOTOR GENERATOR (Fig. 34) which converts the incoming Alternating Current Supply. WARD-LEONARD and MULTI-VOLTAGE are other names given to this system.



34 *Motor-generator of Unit Construction for Variable-voltage Control*

35 *A typical Gearless machine*



WHAT IS A GEARLESS LIFT?

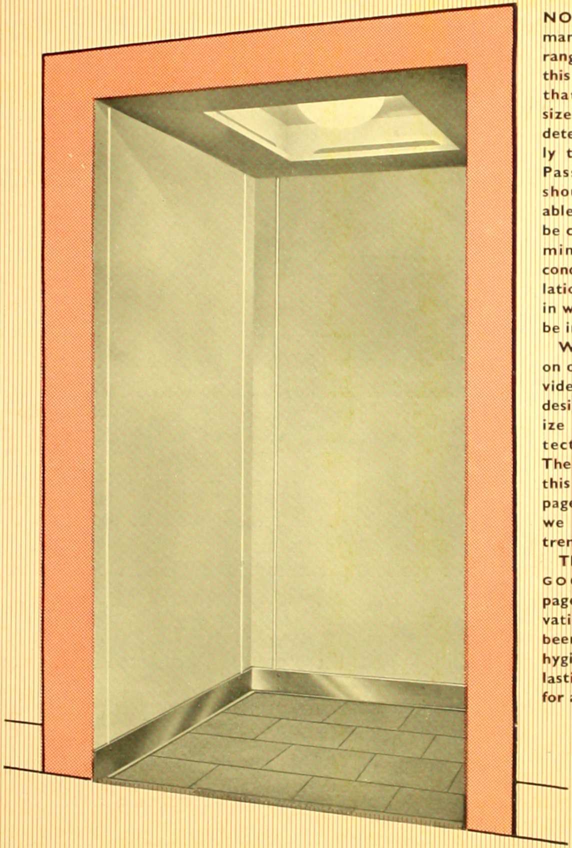
ON LIFTS running in excess of 350 feet per minute the use of WORM REDUCTION GEARS is impracticable.

The GEARLESS MACHINE (Fig. 35) has therefore been produced to drive such lifts. It comprises a large extremely SLOW-SPEED MOTOR to the shaft of which is attached a driving SHEAVE and BRAKE.

The motor is controlled by VARIABLE VOLTAGE as described above.

Gearless drive provides smooth, quiet, vibrationless operation and is therefore the ideal system even where the employment of worm reduction gears is possible.

MUST I HAVE A PARTICULAR CAR DESIGN AND SIZE?



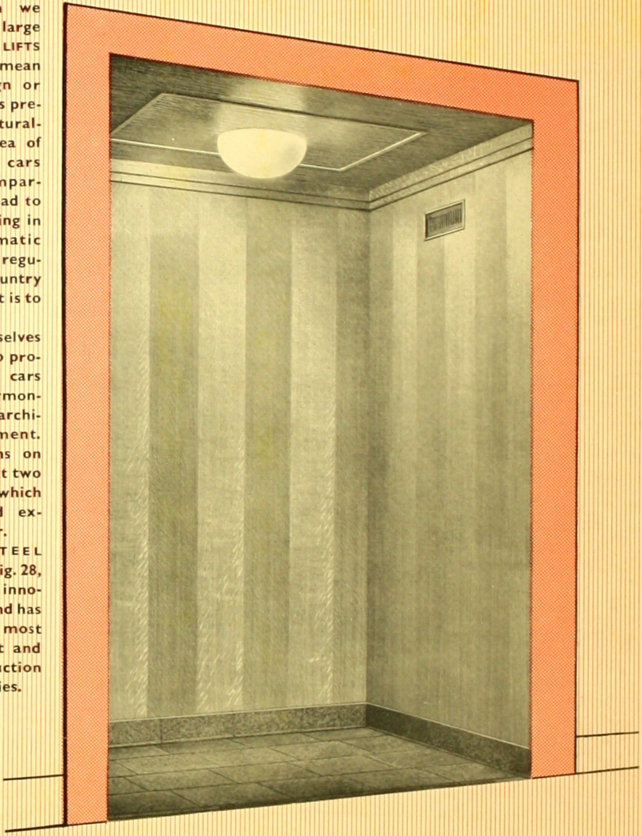
THE OXFORD

Hand Colour Plastic panelling in a variety of colours

NO! Although we manufacture a large range of STOCK LIFTS this does not mean that the design or size of the CAR is predetermined. Naturally the floor area of Passenger Lift cars should be comparable with the load to be carried bearing in mind the climatic conditions and regulations of the country in which the Lift is to be installed.

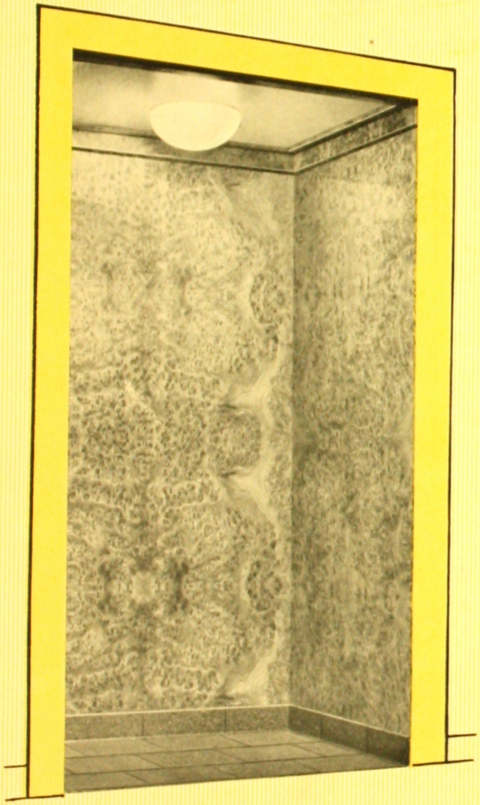
We pride ourselves on our ability to provide passenger cars designed to harmonize with any architectural treatment. The illustrations on this and the next two pages are those which we have found extremely popular.

The ALL-STEEL GOODS CAR (Fig. 28, page 13) was an innovation of ours and has been proved the most hygienic, robust and lasting construction for arduous duties.



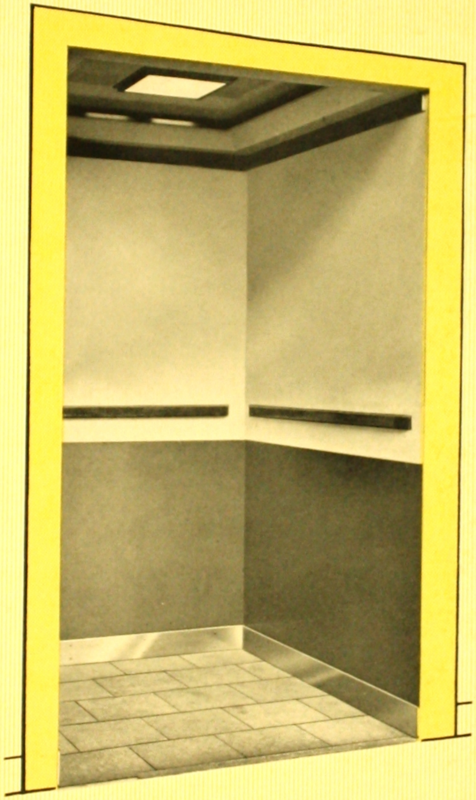
THE SANDOWN

Flush panels in choice of timbers



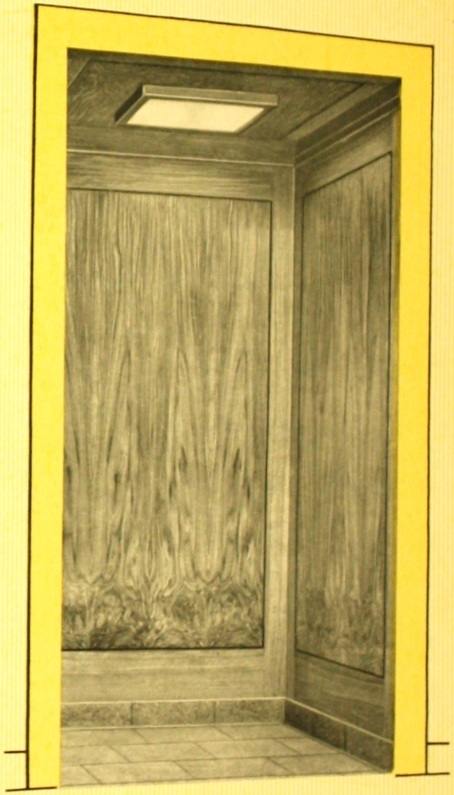
THE MARLBOROUGH

Panelling in Quartered Elm Burr



THE RICHMOND

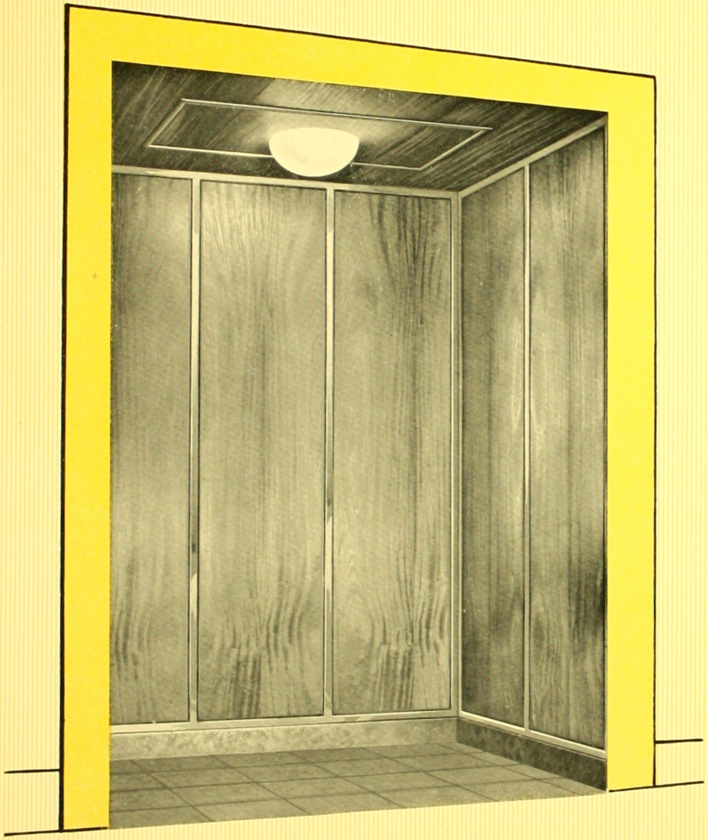
Well surfaced two-colour cellulosed



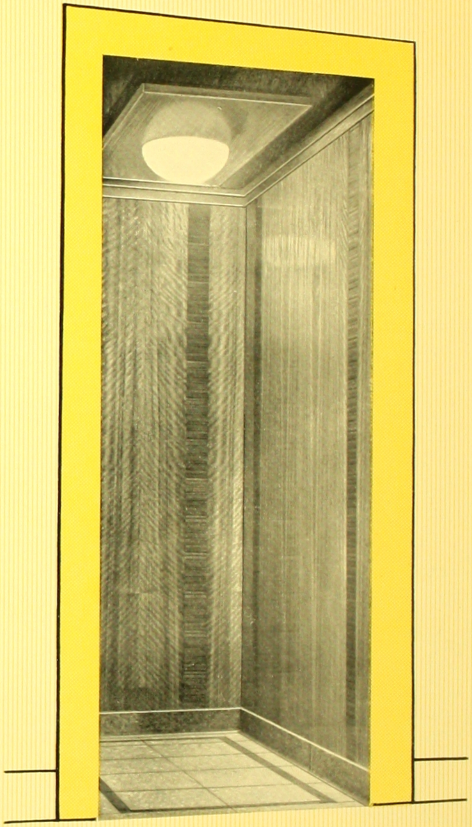
THE EXETER

Figured French Walnut panels with black inlay relief

SOME MORE POPULAR LIFT-CAR DESIGNS

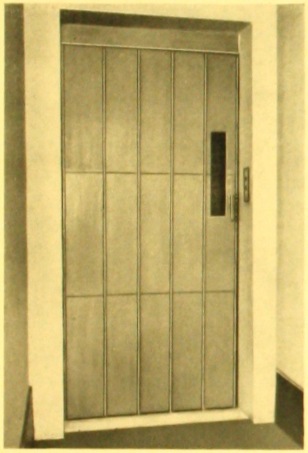


THE PORTLAND
Waxed Mahogany panels in natural colour with bronze frame relief



THE HERTFORD
Australian Walnut panelling with vertical cross-band inlay

PROTECTION OF CAR AND LANDING ENTRANCES



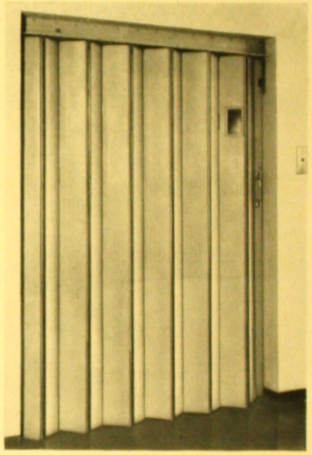
36

WHAT DO YOU RECOMMEND?

THE GREAT DEMAND for Lifts with POWER-OPERATED CAR and LANDING DOORS together with legislation determine to a large extent the form of entrance protection to be employed.

Sliding or collapsible doors are preferable when power operation is required. COLLAPSIBLE GATES, whilst popular in hot climates because they permit air-flow, are sometimes objected to for this reason.

All types of sliding doors which we provide, whether of solid or collapsible type, can be of fire-resisting construction.



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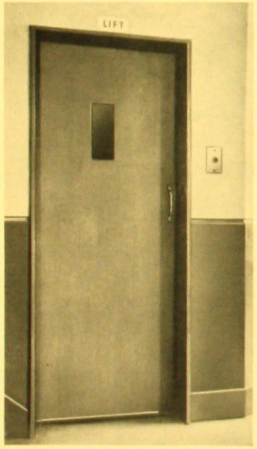

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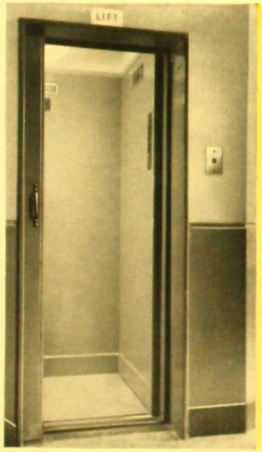


39

36 *The 'Alligator' Door*

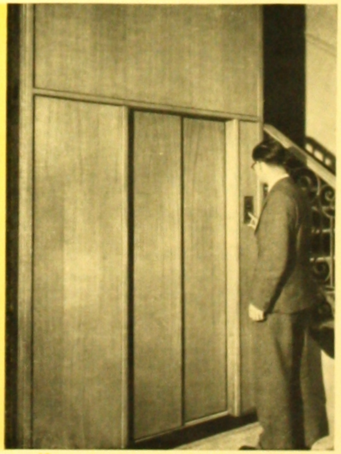
37 *The 'Shutter' Gate*

38 *The 'Wellington' Single-speed Door* CLOSED

39 *The 'Wellington' Single-speed Door* OPEN

40 *The 'Two-speed' Door* CLOSED

41 *The 'Two-speed' Door* OPEN



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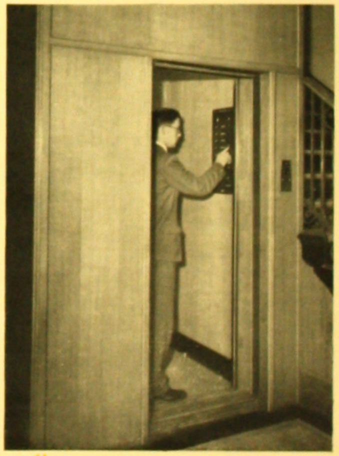


41

DO YOU MAKE SERVICE LIFTS AS WELL?

YES! THESE ARE really small Goods Lifts which do not carry passengers and usually serve above floor level. On multi-floor Electric Lifts it is essential for the method of control to be adequate yet simple. Our PRE-SELECTIVE NON-INTERFERENCE SYSTEM combines these features.

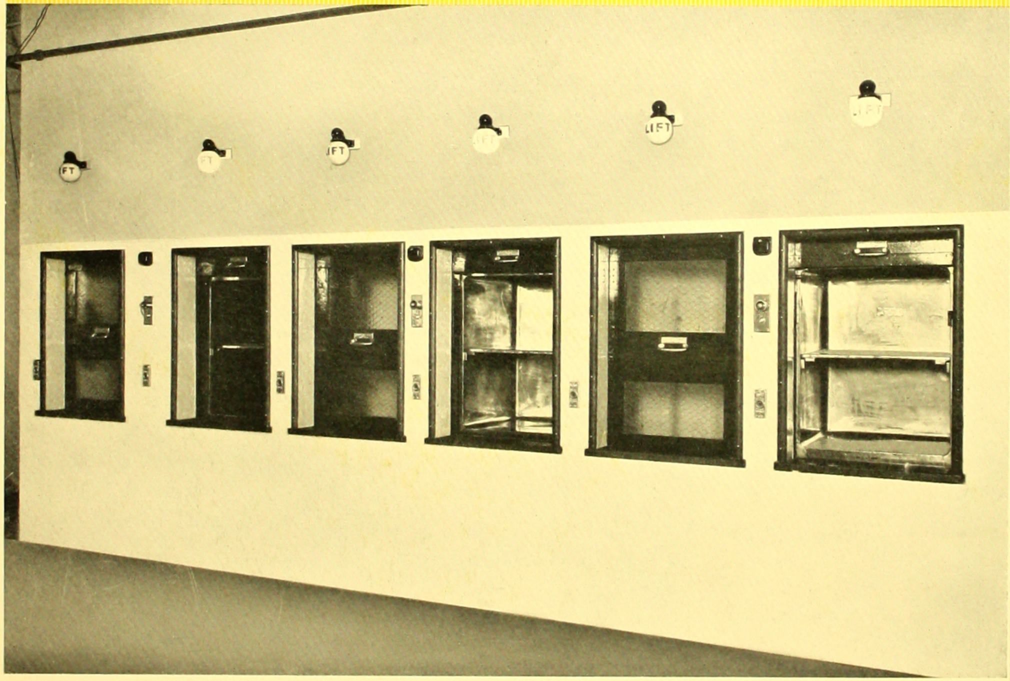
The most convenient form of entrance protection for Service Lifts is our vertically self-balancing BI-PARTING SHUTTERS with vision panels. Our audible or visible ARRIVAL INDICATORS vastly improve the service.

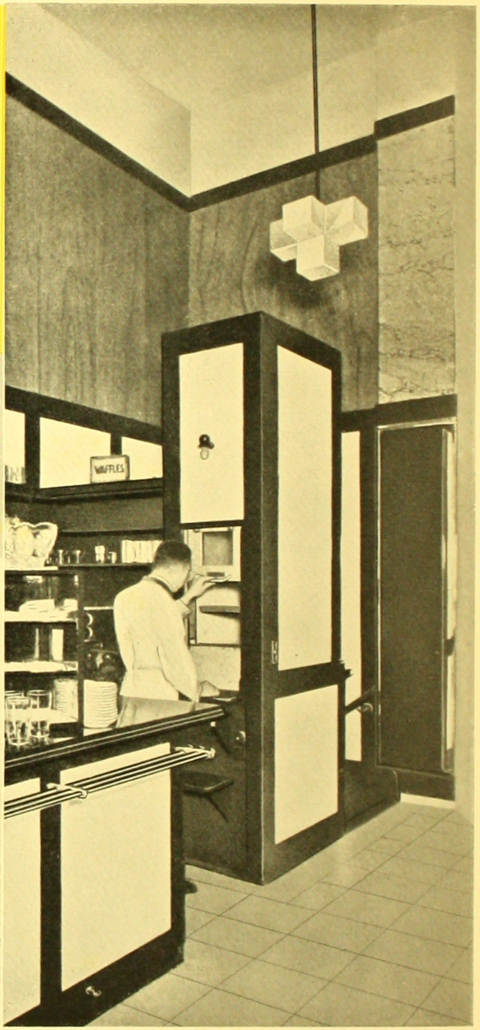
CARS can be constructed to any reasonable specification.

Hand-power Service Lifts can also be provided, but are recommended only where the loads are light and the service infrequent.

42 (BELOW) *A battery of Electric Service Lifts with Bi-parting shutters, arrival indicators, automatic control and stainless steel cars for carrying food*

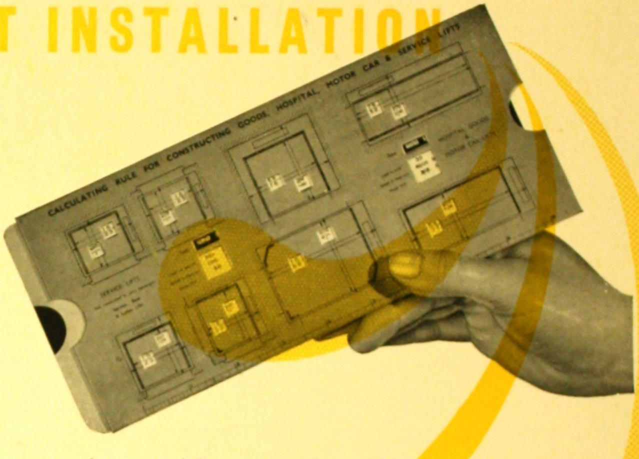
43 (RIGHT) *One of our Electric Service Lifts, with Bi-parting Shutters and Arrival Lights, in a Modern Snack Bar*





I AM CONTEMPLATING A LIFT INSTALLATION WHAT INFORMATION CAN YOU PROVIDE?

From offices throughout the World our representatives will be only too pleased to give information and advice on any scheme which includes a Lift installation. The following publications will be sent free of cost to suitable persons on application:


CALCULATING RULE FOR CONSTRUCTING GOODS, HOSPITAL, MOTOR CAR & SERVICE LIFTS
SERVICE LIFTS

Architects' Calculating Rule. *This 'slide rule' has been specially designed to simplify the consideration of a lift in the sketch stage of planning. It gives instantly most of the information needed for the preparation of drawings.*

Lifts by L. W. Honey. *A collation of authoritative publications and recommendations printed in full, together with recommendations for lift planning.*

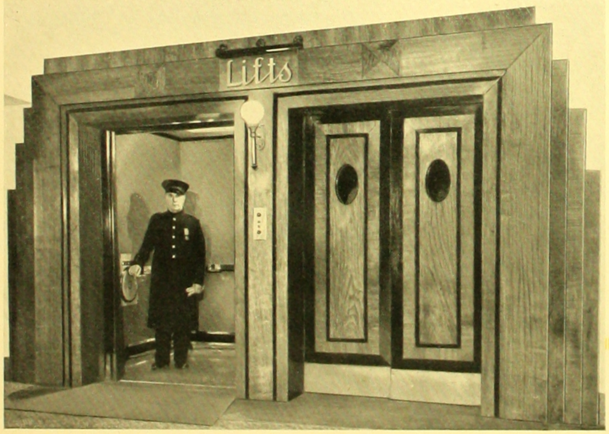
Standard Lifts. *There is a complete range of Marryat-Scott Standard Lifts for all purposes, and these machines are adaptable to suit almost any site condition. A full description with illustrations is available on request.*

Technical Service. *We are always ready to provide advice, information, drawings, and constructional details for any scheme.*

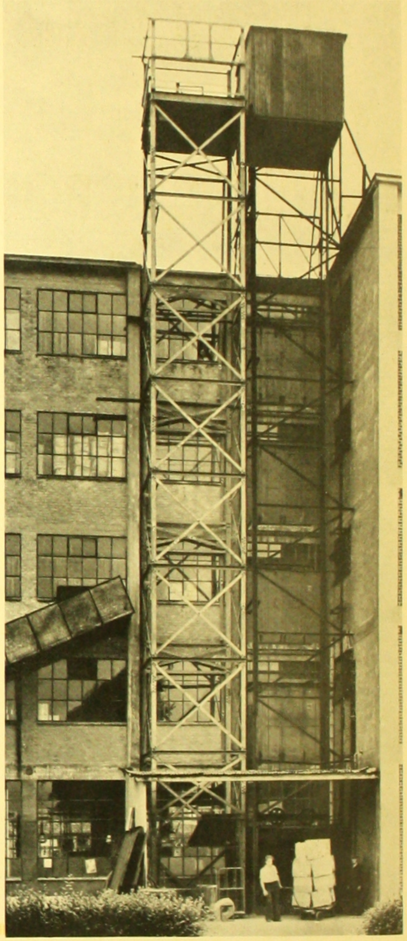
WHERE HAVE YOU INSTALLED LIFTS?

As our Business of Lift manufacture has been fully active and progressive since 1891, *space will not permit of a complete list of our Lift installations. We are proud to have in our records many names of world-wide repute and the following is a selection.*

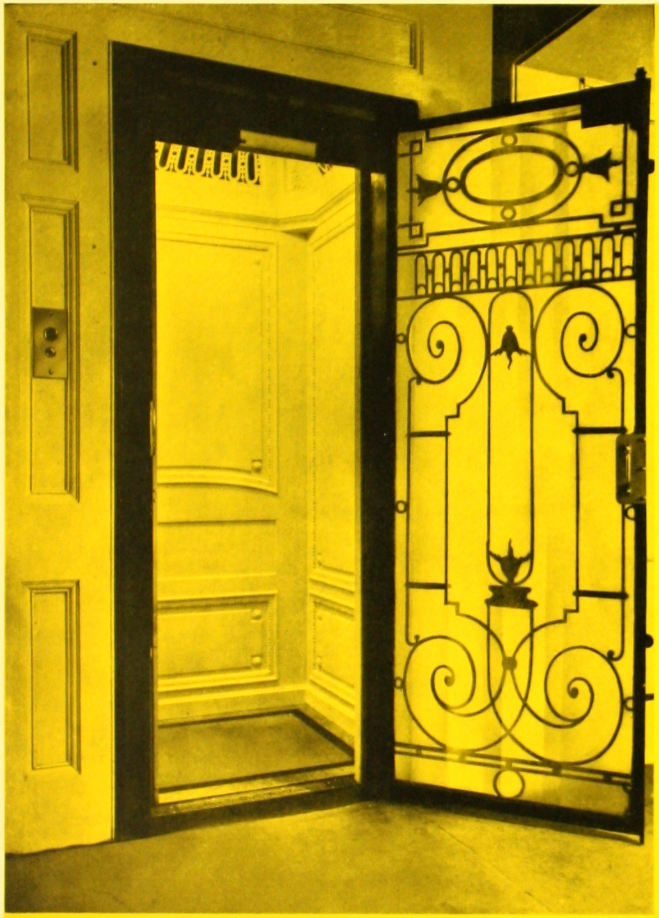
H. J. HEINZ CO. LTD. · BOOTS PURE DRUG CO. LTD. · ALLEN & HANBURY LTD. · HOVIS LTD. · RECKITT COLMAN & CO. LTD. · W. & R. JACOBS & CO. LTD. · McVITIE & PRICE LTD. · BROOKE BOND & CO. LTD. · CROSSE & BLACKWELL LTD. · MARSH & BAXTER LTD. · JOSEPH RANK LTD. · TATE & LYLE LTD. · H.P. SAUCE LTD. · DUNLOP RUBBER CO. LTD. · ROLLS ROYCE LTD. · AUSTIN MOTOR CO. LTD. · FORD MOTOR CO. LTD. · VAUXHALL MOTORS LTD. · DAIMLER CO. LTD. · BRITISH THOMSON-HOUSTON CO. LTD. · SIEMENS BROS. & CO. LTD. · ENGLISH ELECTRIC CO. LTD. · JOSEPH LUCAS LTD. · GUEST, KEEN & NETTLEFOLDS LTD. · WESTMINSTER BANK LTD. · BARCLAYS BANK LTD. · RALEIGH INDUSTRIES LTD. · DECCA GRAMOPHONE CO. LTD. · JOHNSON MATTHEY & CO. LTD. · THE PLESSEY CO. LTD. · RICHARD PYE & CO. LTD. · STANDARD TELEPHONES & CABLES LTD. · ANGLO-IRANIAN OIL CO. LTD. · SHELL MEX LTD. · THAMES BOARD MILLS LTD. · ASSOCIATED NEWSPAPERS LTD. · PILKINGTON BROS. LTD. · ELECTRICAL & MUSICAL INDUSTRIES LTD. · IMPERIAL CHEMICAL INDUSTRIES LTD. · ROYAL DOULTON POTTERIES · LEVER BROS. & UNILEVER LTD. · PICKFORDS LTD. · BRITISH BATA SHOE CO. LTD. · LILLEY & SKINNER LTD. · MAPLE & CO. LTD. · F. W. WOOLWORTH & CO. LTD. · GILLETTE INDUSTRIES LTD. · C. & A. MODES LTD. · PATONS & BALDWINS LTD. · COTY LTD. · CARRERAS LTD. · GODFREY PHILLIPS LTD. · RICHARD LLOYD & SONS · J. WIX & SONS LTD. · W. & A. GILBEY LTD. · BOOTHS DISTILLERIES LTD. · ARTHUR GUINNESS SON & CO. LTD. · WATNEY COMBE REID & CO. LTD. · CHIVERS & SONS LTD. · THE STEEL CO. OF WALES · TECALEMIT LTD. · THE NESTLÉ CO. LTD. · JENSON & NICHOLSON LTD. · THOS. COOK & SON LTD.



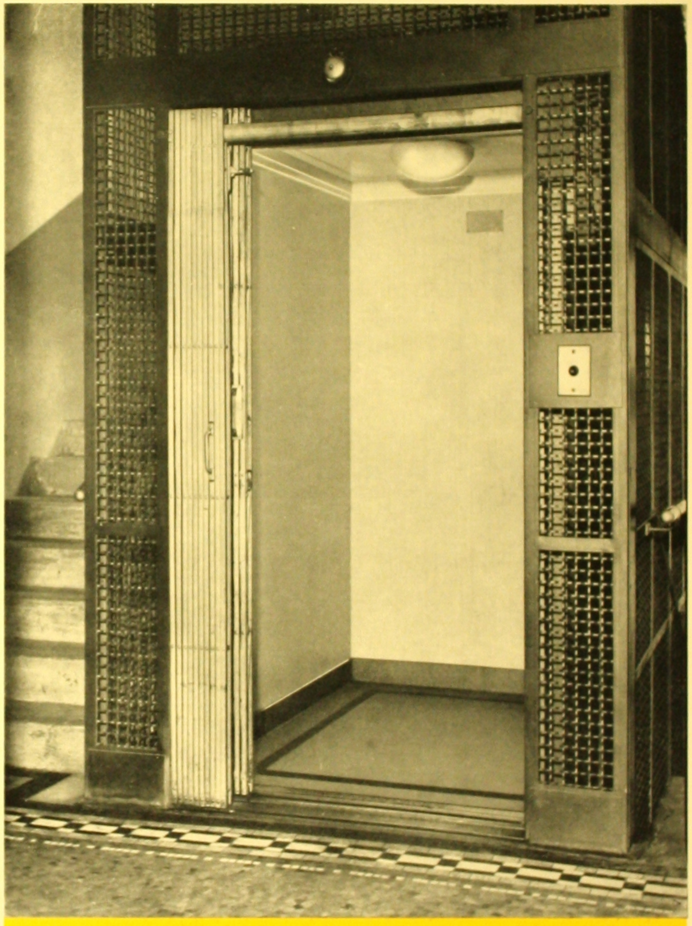
44 *High-speed Passenger Lifts with Automatic Sliding Doors for Departmental store or office service.*



45 *An example of Goods Lift Installations in Steel Structures for the British Bata Shoe Co. Ltd., Tilbury. The Lift on the right was installed in* 1934, *and second Lift, a repeat order, in process of installation fifteen years later*



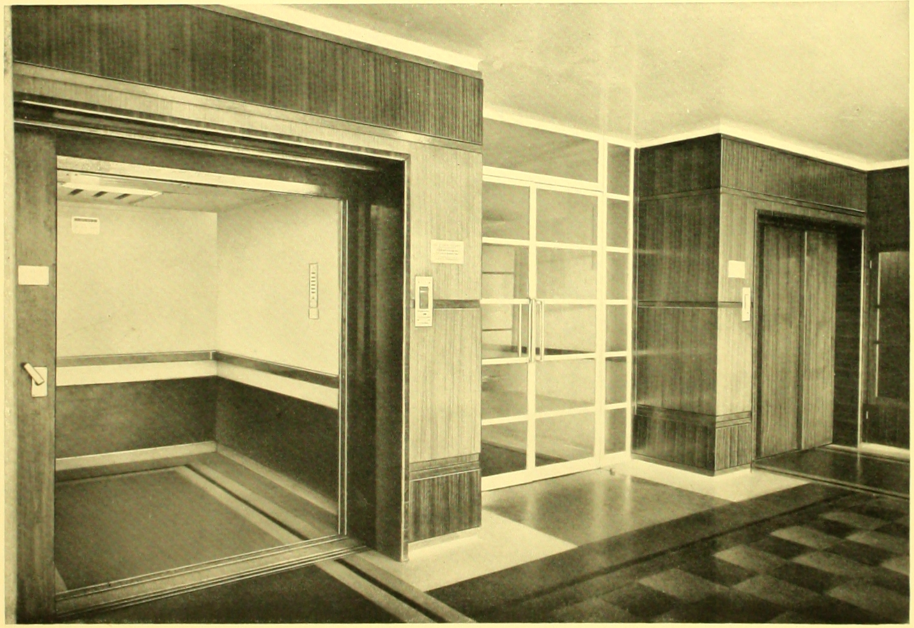
46 *A Passenger Lift which we installed in the London Residence of the Ambassador of the United States of America. This Lift replaced an old one but retained the architectural features*

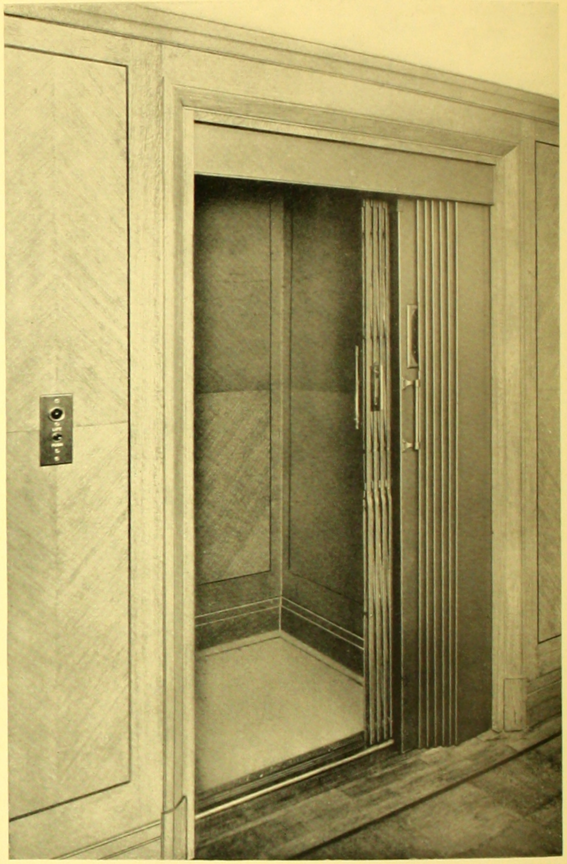


47 *An Electric Passenger Lift with Enclosure installed in the Nurses' Home of the Royal London Homeopathic Hospital.* Architect: *P. J. B. Harland,* F.R.I.B.A.

A FURTHER SELECTION OF MARRYAT-SCOTT LIFT USERS

THE HOUSE OF LORDS · THE FOREIGN OFFICE · WESTMINSTER CATHEDRAL · UNITED STATES AMBASSADOR · THE PRIME MINISTER OF IRAQ · THE GOVERNOR OF SIND · THE SULTAN OF JOHORE · CANADIAN HIGH COMMISSIONER · CANADIAN IMMIGRATION DEPARTMENT · AUSTRIAN LEGATION, LONDON · ICELANDIC EMBASSY, LONDON · BRITISH EMBASSY, MOSCOW · U.S.A. ARMY HEADQUARTERS · OXFORD UNIVERSITY · CAMBRIDGE UNIVERSITY · LONDON UNIVERSITY · MADRAS UNIVERSITY · BRITISH BROADCASTING CORPORATION · FILM CITY, BOMBAY · BOMBAY PORT TRUST · H.M. DOCKYARDS · PORT OF LONDON AUTHORITY · ROYAL ARSENAL, WOOLWICH · EGYPTIAN STATE RAILWAYS · THE TYNE TUNNEL · G.P.O. UNDERGROUND RAILWAY · NAVY, ARMY & AIR FORCE INSTITUTE · ROYAL ACADEMY OF DRAMATIC ART · CONSTITUTIONAL CLUB · ARGENTINE CLUB · THE ENGLISH-SPEAKING UNION · ROYAL MASONIC HOSPITAL · PHOENICIA HOTEL, MALTA · INSTITUTION OF ELECTRICAL ENGINEERS · HOLYROOD PALACE · ST. JAMES'S PALACE · DUNROBIN CASTLE · BIKANER PALACE · MYSORE PALACE · RAJKOT PALACE · RAMPUR PALACE · MAKARPURA PALACE · WAGH-MAHAL PALACE · MORVI PALACE · RAMBAGH PALACE · UDAIPUR PALACE · JAYAMAHAL PALACE · ALEXANDRA PALACE · NEW SCOTLAND YARD · THE FESTIVAL OF BRITAIN · ROYAL ZOOLOGICAL SOCIETY





48 (LEFT) *Two of the seventeen Electric Lifts installed in the Royal Masonic Hospital, London.* Architects: *Sir John Burnet, Tait and Lorne*

49 (ABOVE) *An Electric Passenger Lift and Hall Panelling installed in the London Office of John Walker & Sons Ltd., the famous Whisky Distillers.*

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300/4/50/5,000

HOW SHOULD I WORD MY INQUIRY FOR AN ELECTRIC LIFT?

Sometimes a Lift has to be built to suit an existing site and at other times a Well is constructed.

To prepare an estimate we need the following information. If, in addition, you can send a rough sketch of the site this will be very helpful.

(a) Describe the purpose of the Lift, how it will be used, and what will be carried in the Car.

(b) In what type of building is the Lift to be installed and what is its construction?

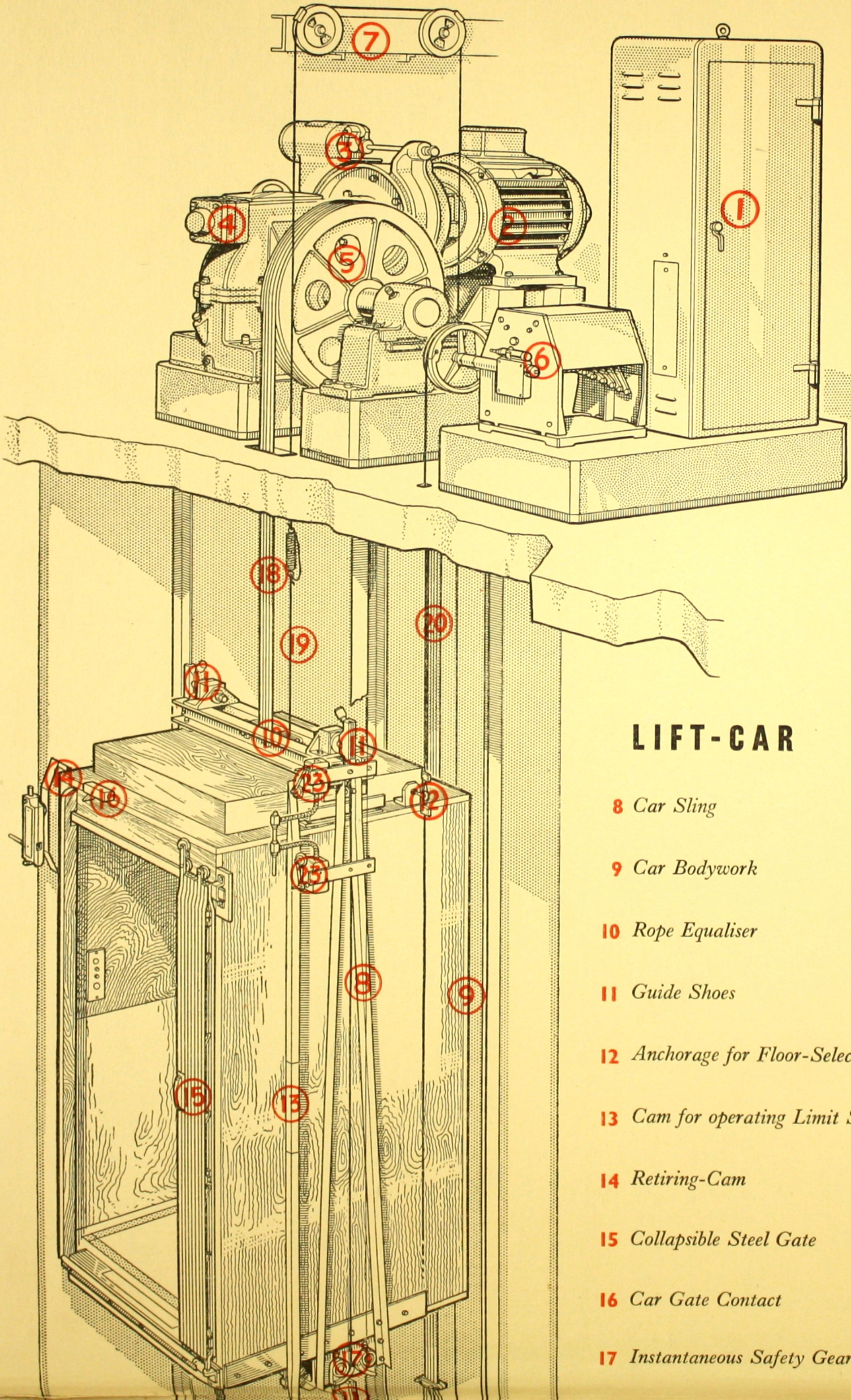
(c) Give either the Car size, the Well size, or the Load to be carried.

(d) State number of floors served and the height of each floor.

(e) Are the Car entrances all on one side or opposite sides. If opposite how many Landing entrances are there?

(f) Electric Power Supply available.

If you are near one of the offices listed at the beginning of this book you will find it simpler to ask the advice of our local representative, who will help you to prepare your inquiry.



MOTOR ROOM

1 *Controller*

2 *Lift-Motor*

3 *Electro-mechanical Brake*

4 *Worm Reduction Gear*

5 *Driving-sheave and End Bearing*

6 *Floor-Selector*

7 *Safety Rope Pulleys*

LIFT-CAR

8 *Car Sling*

9 *Car Bodywork*

10 *Rope Equaliser*

11 *Guide Shoes*

12 *Anchorage for Floor-Selector Tape*

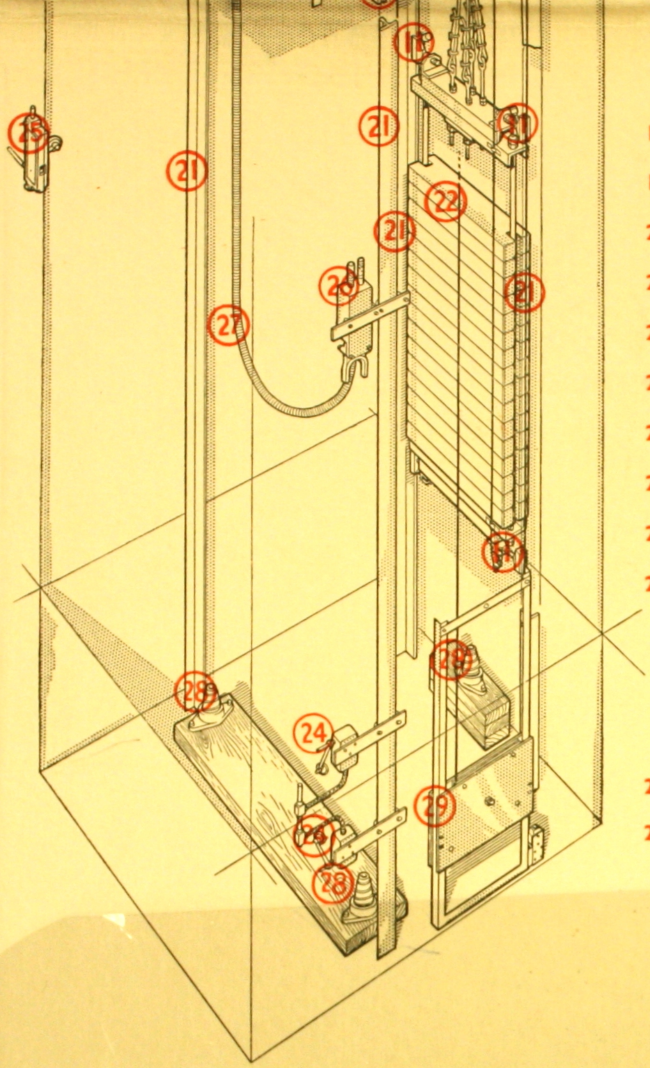
13 *Cam for operating Limit Switches*

14 *Retiring-Cam*

15 *Collapsible Steel Gate*

16 *Car Gate Contact*

17 *Instantaneous Safety Gear*



LIFT-WELL

18 *Suspension Ropes*

19 *Safety Rope*

20 *Floor Selector Tape*

21 *Car and Counterweight Guides*

22 *Counterweight*

23 *Normal and Final Limit Switches* (TOP FLOOR)

24 *Normal and Final Limit Switches* (LOWEST FLOOR)

25 *Electro-mechanical Gate or Door Locks on Landings*

26 *Halfway Box*

27 *Travelling Cable*

LIFT-PIT

28 *Car and Counterweight Buffers*

29 *Floor-Selector Tape Tension Weight and Pulley*

A TYPICAL MARRYAT-SCOTT ELECTRIC PASSENGER LIFT

SHOWING THE RELATIVE POSITIONS OF PRINCIPAL COMPONENTS

MARRYAT – SCOTT LIFTS

LONDON · ENGLAND